

only moderate or even slight intensity. Storm warnings were ordered for the Great Lakes from time to time, and these warnings were, in a large majority of cases, fully justified. As the storms were not unusual, no detailed description is necessary.

*Cold-wave warnings.*—No general cold-wave warnings were ordered during the month, but these advices were confined to localities in the Northwest and in the Plains States on two or three days only. The principal cold wave appeared in the Canadian Northwest on the night of the 11th, and gradually pushed southward and eastward, finally causing a considerable fall in temperature over the entire forecast district, although in middle districts it was not of cold-wave proportions.

*Beekkeepers' forecasts.*—In response to requests received from the county agricultural agent, Phillips, Wis., and Mr. C. F. Rife, Naperville, Ill., that special forecasts be furnished them in the interests of honey producers whenever midday temperatures of 50° or more to be followed by cloudy and cooler weather were expected, advices were sent to them on November 18, indicating two days of mild temperature. On the 22d they were further advised, however, that following that date they could hardly look for any more such periods. Similar advices are being furnished to members of the American Honey Producers' League in the month of November, so that they may delay placing their bees in the cellar for the period of hibernation until there is no longer any likelihood of favorable flying weather, during which the bees may make their final cleansing flight.

*Fire-weather forecasts.*—Because of the prevalence of forest fires in the east-central portion of the Lower Michigan peninsula fire-weather forecasts were requested by the United States Forest Supervisor at East Tawas, Mich., on October 25, 1924, and these forecasts were continued until the fire hazard had passed, November 16. A letter from the forest supervisor states that "The forecasts have been of considerable assistance to us, and we wish to thank you for your cooperation in the matter."

During the winter season special advices, covering the probable temperature conditions during the balance of the week in the northwestern States, are sent each Monday morning to several addresses in the north Pacific States, for use in connection with the shipment of perishable fruit eastward; and whenever cold waves are imminent additional information is sent. As the temperature in that area was rather variable, ranging from fairly mild to rather cold, special attention had to be given to the service, and it is believed that the shippers interested were much benefited by the forecasts furnished. When periods of mild weather were in prospect, the shippers were, of course, so advised, as well as upon the approach of cold weather.—*H. J. Cox.*

#### NEW ORLEANS FORECAST DISTRICT

Cold-wave warnings were issued for Oklahoma on the 6th, and for Oklahoma and the extreme northwest portion of East Texas on the 23d, and were justified. Livestock warnings were issued for Oklahoma and the Texas Panhandle on the 6th and 13th, and for Oklahoma, the Texas Panhandle and the extreme northwest portion of East Texas on the 23d and the southern portion of West Texas on the 24th. Frost occurred as far south as the Louisiana and Texas coast on the 25th and reached the Louisiana coast on the 26th, for which timely warnings were issued; radiation was intense and frost heavy to killing almost to the coast.

No storm warnings were issued and no general storm occurred on the Gulf coast. Winds of 34 miles per hour for short periods were recorded at Galveston, Tex., during the night of the 23d-24th.—*I. M. Cline.*

#### DENVER FORECAST DISTRICT

Two storms which were attended by precipitation in Colorado, northern Arizona and Utah crossed the district from the northwest during the first 10 days of the month. Another disturbance, attended by light snow in western Colorado, northern Arizona and Utah, and by showers in eastern and southern New Mexico, appeared over Arizona on the 11th and advanced to Texas by the 14th. High pressures prevailed on the Rocky Mountain Plateau from the 13th to the 30th, with fair weather, except that occasional light precipitation in Colorado and northern New Mexico on the 18th, and 19th resulted from a moderate disturbance which advanced northeastward from Arizona, and light snows in central and eastern Colorado on the 23d and 26th attended moderate secondary disturbances that developed on the eastern slope of this State.

Warnings of a moderate cold wave in northeastern Arizona and southwestern Utah were issued on the morning of the 5th, and in southwestern Colorado and northern and extreme eastern New Mexico on the morning of the 6th. Warnings of a moderate cold wave in central and eastern Colorado and southwestern Utah were also issued on the morning of the 10th. All three of these warnings were verified. Another warning of a moderate cold wave, which was verified, was issued for eastern Colorado on the morning of the 26th.

At 2 p. m. of the 12th, when an area of high pressure was central over eastern Montana, with severe, low temperatures on the northeastern Rocky Mountain slope and a low of considerable intensity covered Arizona and northern New Mexico, warnings of a severe cold wave and livestock warnings were issued for eastern Colorado and of a moderate cold wave, with livestock warnings, for northeastern New Mexico. The cold-wave warnings were repeated on the evening of the same day. The high, however, divided, the portion east of the mountains moving rapidly southeastward, while the low in the Southwest decreased in intensity. A moderate cold wave occurred in southeastern Colorado, with sharply lower temperatures in extreme northeastern New Mexico. Snow, a forecast of which had been included in the livestock warnings, failed to occur in eastern Colorado, although heavy rain and sleet fell at Amarillo, Tex.

Cold waves without warnings occurred at Leadville, Colo., on the 6th-7th and 23d, at Grand Junction on the 11th and in eastern New Mexico on the 24th.

Frost warnings were issued as follows: Heavy frost in south-central and southeastern Arizona on the 6th and in south-central and southwestern New Mexico on the 7th; frost in south-central and southeastern Arizona on the 7th, 11th, 24th, 25th, 27th, and 28th; frost in southern Arizona on the 12th, 13th and 26th. The warnings were generally verified.—*J. M. Sherier.*

#### SAN FRANCISCO FORECAST DISTRICT

At the beginning of the month the barometric pressure was abnormally high over the Alaskan area and low over the ocean east of longitude 160° west, and this situation continued during the first 10 days of the month. The result was a succession of lows from the ocean which